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Rejections Under 35 U.S.C. §112

The Examiner rejected claim 27 under 35 U.S.C. §112, second paragraph, as being indefinite. In particular, the Examiner has indicated that the meaning of "plurality of compositions" is unclear. Applicants respectfully request reconsideration of the rejection based on the following comments.

The Examiner has not indicated what possible ambiguity results from the term "plurality of compositions." Clearly this expression means more than one composition. Such structures are described in Applicants specification from page 49, line 30 to page 50, line 13. Applicants maintain that the claim is clear. Applicants respectfully request the withdrawal of the rejection of claim 27 under 35 U.S.C. §112, second paragraph, as being indefinite.

Rejections Under 35 U.S.C. §103(a)

The Examiner rejected claims 1-28 and 31 as being unpatentable over either 1) U.S. Patent 5,935,278 to Ishitobi et al. (the Ishitobi patent) alone or in view of U.S. Patent 6,001,730 to Farkas et al. (the Farkas patent), 2) U.S. Patent 5,759,917 to Grover et al. (the Grover patent) alone or in view of the Farkas patent, or 3) U.S. Patent 5,783,489 to Kaufman et al. (the Kaufman patent) alone or in view of the Farkas patent.

The Examiner rejected claims 1-28 and 31 under 35 U.S.C. §103(a) as being unpatentable over either 1) U.S. Patent 5,861,054 to Miyashita et al. (the Miyashita patent) in view of the Farkas patent, or 2) U.S. Patent 5,264,010 to Brancaleoni et al. (the Brancaleoni patent) in view of the Farkas patent.

The Examiner rejected claims 1-4, 7-28 and 31 under 35 U.S.C. §103(a) as being unpatentable over either 1) U.S. Patent 5,891,205

to Picardi et al. (the Picardi patent) in view of the Ishitobi patent and the Farkas patent, 2) U.S. Patent 5,575,885 to Hirabayashi et al. (the Hirabayashi patent) in view of the Ishitobi patent and the Farkas patent, or 3) U.S. Patent 4,983,650 to Sasaki (the Sasaki patent) in view of the Ishitobi patent and the Farkas patent.

The Examiner rejected claims 1-28 and 31 under 35 U.S.C. §103(a) as being unpatentable over either 1) U.S. Patent 5,868,604 to Atsugi et al. (the Atsugi patent) in view of the Ishitobi patent and the Farkas patent, or 2) U.S. Patent 5,389,194 to Rostoker et al. (the Rostoker patent) in view of the Ishitobi patent and the Farkas patent.

The Examiner rejected claims 1-4, 7-18, 23-28 and 31 under 35 U.S.C. §103(a) as being unpatentable over U.S. Patent 5,622,525 to Haisma et al. (the Haisma patent) in view of the Ishitobi patent and the Farkas patent.

For brevity, Applicants do not repeat their arguments and analyses from the Amendment of May 30, 2000. These analyses are incorporated herein by reference. Applicants believe that the analysis in the Amendment of May 30, 2000 provides forceful arguments for patentability. Here, however, Applicants further develop the legal analysis to clarify asserted shortcomings of the rejections.

The present claims are directed to compositions of matter or methods using novel compositions of matter. It is long established that a composition of matter is indistinguishable from its properties. In re Papesch, 137 USPQ 43, 51 (CCPA 1963); In re Cescon, 177 USPQ 264, 266 (CCPA 1973). There are two types of properties, chemical/compositional properties and physical properties. The chemical/compositional properties of the composition of matter determine what the material is, while the physical properties relate to the interaction and behavior of the composition of matter. The claimed aspects of the present

invention are chemical/compositional properties that make the material a different composition of matter.

In particular, the claimed compositions have several compositional features. First, the composition of matter is a dispersion with a liquid and solid particles at a concentration of less than about 50 percent by weight. Next, the particles have a specified range of average particle sizes. Average particle size is a chemical/compositional property similar to chemical formula or molecular weight of a polymer. Collections of particles with one average particle size will have different physical properties from collections of particles with other average particle sizes.

Similarly, the distribution of particle sizes is another chemical/composition property of solid particles that is distinct from the average particle size. The distribution of particle sizes is another chemical/compositional property. A particle collection with a particular particle size distribution may have different physical properties from other collections of particles with different particle size distributions.

Obviousness under 35 U.S.C. §103 must be evaluated by viewing the invention as a whole. In re Langer, 175 USPQ 169, 171 (CCPA 1972). "In effect, we consider the prior art 'as a whole' with the claimed subject matter 'as a whole.'" Id. This rule superseded other principles, and specifically, "homology should not be automatically equated with prima facie obviousness." Id. "To give meaning to the language of 35 U.S.C. 103 which speaks to the subject matter 'as a whole,' we feel weight must be given the properties of a compound or composition of matter." In re Murch, 175 USPQ 89, 92 (CCPA 1972). "It has long been our position that a compound and its properties are inseparable and that **no property can be ignored in determining patentability over the prior art.**" In re Cescon, 177 USPQ at 266.

It is also well established that a composition of matter is not unpatentable if the prior art does not teach a method for

making the composition of matter. In re Hoeksema, 158 USPQ 596 (CCPA 1968). If the prior art does not teach a method of making the composition of matter, the public is not in possession of the composition of matter.

Thus, if a compound with a particular molecular formula cannot be made based on the teachings in the prior art, the compound is patentable if a method is discovered for making the compound. Similarly, a collection of particles is patentable if the prior art did not disclose a method of producing the collection of particles. **In particular, if a collection of particles with a narrower distribution of particle sizes is discovered, this collection of particles is patentable over the prior art if the prior art did not disclose an obvious method of making the highly uniform particles.**

Similar issues were considered in In re Grose, 201 USPQ 57 (CCPA 1979). The issue in the Grose case was the crystal structure of zeolites in a collection of zeolite particles. Crystal structure, like particle size distribution, is a chemical/compositional property of the composition of matter, which happens to be a collection of particles, i.e., a powder. The relevant issues are well stated in In re Grose:

Though nonobviousness of appellants' process for preparing their claimed composition would not be determinative of nonobviousness of the composition, a holding that the composition would have been nonobvious would require that the prior art fail to disclose or render obvious a process for preparing it.

[I]f the prior art of record fails to disclose or render obvious a method for making a claimed compound, at the time the invention was made, it may not be legally concluded that the compound itself is in the possession of the public. In this context, we say that the absence of a known or obvious process for making the claimed compounds overcomes a presumption that the compounds are obvious. ***

In re Hocksema, 55 CCPA 1493, 1500, 399 F.2d 269, 274, 158 USPQ 596, 601 (1968) (foot note omitted). **Failure of the prior art to disclose or render obvious a method for making any composition of matter, whether a compound or a mixture of**

compounds like a zeolite, precludes a conclusion that the compound would have been obvious.

In re Grose, 201 USPQ at 63-64 (emphasis added). Applicants note that the zeolites had the same chemical formula as the prior art zeolites in In re Grose. "No reason exists for applying the law relating to structural obviousness of those compounds which are homologs or isomers of each other to this case. When the PTO seeks to rely upon chemical theory, in establishing a prima facie case of obviousness, it must provide evidentiary support for the existence and meaning of that theory. In re Mills, 47 CCPA 1185, 1191, 281 F.2d 218, 223-224, 126 USPQ 513, 517 (1960)." In re Grose, 201 USPQ at 63.

"One of the assumptions underlying a prima facie obviousness rejection based upon a structural relationship between compounds, such as adjacent homologs, is that a method disclosed for producing one would provide those skilled in the art with a method of producing the other. That assumption does not apply, however, to the present case." Id. Thus, if the prior art does not teach a method for making the claimed composition, there is no reason to disclose unexpected results.

Another CCPA case has similarly ruled that an anhydrous crystalline form of a material was patentable over a non-crystalline form. In re Irani, 166 USPQ 24 (CCPA 1970). As stated in that case,

As stated above, even assuming that one skilled in the art could have predicted with reasonable certainty that crystalline anhydrous ATMP could be produced, we are not convinced by this record how this could be achieved. We note that neither the examiner nor the board has contended that a suitable process would have been obvious. The closest that either has come to such a contention is the examiner's statement based on the disclosure in the Irani patent, that, as it turns out, 'little modification of the Petrov *** process will produce a crystalline material.' Obviousness, however, must not be based on hindsight and a 'little modification' can be a most unobvious one.

In view of the foregoing, we need not consider appellants' arguments regarding the differences in properties between appellants and Petrov's forms of ATMP.

In re Irani, 166 USPQ at 27 (bold added). This explicitly confirms that unexpected results do not need to be shown if there is no disclosure in the prior art of a method of producing the composition of matter.

The Examiner's position is unclear to Applicants. The Examiner indicated that "because all the references teach sizes within the claimed ranges and since a range is defined, a distribution is implied." Office Action of September , at page 4. The Examiner further asserts that "Although the claimed distribution is not **literally defined** in many of the references, it is the Examiner's position that from the particle size ranges defined by the references, these specific distributions can be apparent." (Emphasis in original). Applicants do not understand the concept of apparent in this context, and Applicants are aware of no legal standard satisfied by a limitation being apparent.

"It seems to us that the answer to that question is self-evident: by definition, pure materials necessarily differ from less pure materials and, if the latter are the only ones existing and available as a standard of reference, as seems to be the case here, perforce the 'pure' materials are 'new' with respect to them." In re Bergstrom, 166 USPQ 256, 262 (CCPA 1970). Either a composition of matter is disclosed by the prior art or not. **Applicants have previously presented a detailed, reference by reference, refutation that the prior art discloses the claimed particle size distribution resulting in a purer or more uniform material. Either Applicants arguments should be countered specifically or the rejections should be withdrawn.**

The Examiner has specifically commented on Applicants arguments regarding the Rostoker patent. The Examiner has asserted that Applicants have not "provided any evidence to support" their arguments that the distribution disclosed by Rostoker has a

correspondingly large tail. In contrast, Applicants have provided evidence that the approach in the Seigel 5,128,081 patent cited by the Rostoker patent does not lead to Applicants' claimed particle sizes. The Examiner asserts that the Rostoker patent teaches a distribution in claim 10 that reads onto Applicants claimed distribution. Applicants do not agree with this statement. Applicants request that the Examiner explain **how claim 10 of the Rostoker patent reads onto Applicants' claimed invention.**

The Examiner seems to assert that all particle distributions are identical. Particle size distribution, like crystal structure of zeolites in the In re Grose case discussed above, is a compositional property of the composition of matter that defines the composition of matter. The Examiner then asserts that Applicants must show improved grinding rates. However, the case law is crystal clear, see In re Grose and In re Irani above, that Applicants have no obligation to show unexpected result relating to physical properties unless the prior art teaches a method of making Applicants' claimed composition of matter including all of its chemical/compositional properties. Applicants believe that the prior art does not teach highly uniform dispersions disclosed and claimed by Applicants and that the Examiner has not met his burden with respect to establishing prima facie obviousness of any of Applicants claims.

The Examiner has indicated that references cannot be "attacked" individually to argue nonobviousness when the rejection is based on a combination of references. **Applicants hereby argue that the combined disclosures of the prior art references do not render Applicants claimed obvious because alone or combined they do not disclose how to make the claimed compositions of matter. The prior art as a whole does not render obvious Applicants' claimed invention as a whole.**

Applicants respectfully request withdrawal of the rejections of the claims under 35 U.S.C. §103(a) over the references cited above.

Double Patenting

The Examiner rejected claims 1-28 and 31 under the provisional obviousness-type double patenting over the either 1) all the pending claims of copending Application No. 08/961,735 in view of the Ishitobi patent and the Farkas patent, 2) claims 9-15 of copending Application No. 09/085,514 in view of the Ishitobi patent and the Farkas patent, 3) claims 9-15 of copending Application No. 09/136,483 in view of the Ishitobi patent and the Farkas patent, or 4) all of the pending claims of copending Application No. 09/266,202 in view of the Ishitobi patent and the Farkas patent.

With respect to 08/961,735, Applicants firmly maintain that the claims of this application and the secondary references do not render the present claims obvious. The claims and secondary reference do not teach or suggest the narrow particle size distributions of the present application. Similarly, Applicants firmly maintain that no claims of the present invention are obvious over any claims of copending Application No. 09/266,202 in view of the Ishitobi patent and the Farkas patent. In particular, none of the claims of Application No. 09/266,202 are directed to dispersions of particles. Therefore, Applicants respectfully request withdrawal of the rejection of claims 1-28 and 31 under obviousness double patenting over 1) the claims of copending Application No. 08/961,735 in view of the Ishitobi patent and the Farkas patent and 2) the claims of copending Application No. 09/266,202 in view of the Ishitobi patent and the Farkas patent.

Applicants will consider filing a terminal disclaimer over copending Applications 09/085,514 and 09/136,483 when the present case is found otherwise allowable.

CONCLUSIONS

In view of the above amendments and remarks, Applicants submit that this application is in condition for allowance, and such action is respectfully requested. The Examiner is invited to telephone the undersigned attorney to discuss any questions or comments that the Examiner may have.

The Director of the Patent and Trademark Office is authorized to charge any fee deficiency required by this paper or credit any overpayment to Deposit Account No. 23-1123.

Respectfully submitted,

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